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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/619,479	07/16/2003	Masakazu Enomura	0037-0211P	7345
2292	7590	12/09/2005	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			HOGAN, JAMES SEAN	
			ART UNIT	PAPER NUMBER
			3752	

DATE MAILED: 12/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/619,479	Applicant(s) ENOMURA, MASAKAZU	
	Examiner James S. Hogan	Art Unit 3752	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-44 is/are pending in the application.
- 4a) Of the above claim(s) 40-44 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23-26, 28, 30, 33 and 35 is/are rejected.
- 7) ☒ Claim(s) 27, 29, 31, 32, 34 and 36-39 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/16 10/29 9/20</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Claims 40-44 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected apparatus and processing method, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on September 20, 2005.

Applicant's election with traverse of Group 1, Species VI in the reply filed on September 20, 2005 is acknowledged. The traversal is on the ground(s) that all claims, claims 23-44, require dispersion. This is not found persuasive because Applicant has elected Species VI; atomization.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 23-26, 28 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Russian Patent No. SU 1708397 A1 to Gubarev et al. in view of European Patent Publication No. EP 000256147 A1 to Genev.

Art Unit: 3752

Regarding claim 23, Gubarev et al teaches a processing apparatus for a fluid having: a feed (1) for fluid to be processed, a fluid pressure applying mechanism (not shown, but implied at (1)) for applying predetermined pressure to fluid to be processed, two processing faces (at 19)) having a first processing face and a second processing face, a rotary drive mechanism (3,8) for relatively rotating the first and second processing faces, thereby processing the fluid between both processing faces, the fluid being allowed to travel in use between the first and second processing faces, which relatively rotate, a fluid film with predetermined thickness being formed, whereby the fluid is processed to a desired condition of atomization, a face contact pressure applying mechanism (16) for applying contact pressure between the two processing faces urging them into contact, and a pressure receiving surface (not numbered, near (19)) on which the fluid under predetermined pressure acts in use to provide a separation force for separating the processing faces. The face contact pressure applying mechanism (16) of Gubarev et al along with the pressure receiving surface opposite, by their existence, would be configured so that, in use, while fluid is being processed, the separation force between surfaces would be in balance with whatever contact pressure is required to maintain a predetermined interval between processing faces. However, Gubarev et al does not show one of the processing faces being movable towards or away from the other. Genev teaches a crushing device where a first surface of a crushing mechanism (crush cone (17)) is movable away from a second processing face ((crush disc (7))), by way of adjustable stay bolts (51) that have pressure inducing springs (48), and by which the first and second processing faces are connected with a tight-closed passage (19)

Art Unit: 3752

through which material flows. As for claim 24, Gubarev et al. further comprises two processing portions (the un-numbered plates associated the contact surfaces at (19)) with a first processing portion (affixed to rotor (3)) provided in a tight-closed passage (19,20) through which the fluid flows and a second processing portion (affixed to stator disc (17)) which is movable towards or away from the first processing portion (via springs 16), wherein the first processing face and second processing face are disposed opposite to each other on respective said processing portions, the rotary drive mechanism (3,8) is for relatively rotating the first and second processing portions, thereby processing the fluid between both processing faces, with the first processing portion is provided with the pressure receiving face, and at one part of the pressure receiving face is constituted by the second processing face. As for claim 25, Gubarev et al, by the existence of springs (16) located on the bottom of the stator disc (17) provide a buffer mechanism for adjusting vibration and alignment of the second processing face. As for claim 26, as stated previously, Genev teaches a where a first surface of a mechanism (crush cone (17)) is movable away from a second processing face ((crush disc (7))), by way of adjustable stay bolts (51) that have pressure inducing springs (48), and by which, adjust the displacement of a shaft of a rotary mechanism. As for claim 28, the bottom surface of the housing defined by the number (11) of Gubarev et al. would define the maximum interval between first and second processing faces, and would prevent further separation thereof. As for claim 30, the device of Genev teaches a second rotary mechanism (first (16), second (26) for a crushing device, thus teaching processing faces that are capable of being designed to rotate

Art Unit: 3752

mutually in opposite directions. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the processing device of Gubarev et al. with the movable second processing surface of and second rotary mechanism of Genev in order to provide a processing device where materials are capable of being atomized with processing faces moving in opposite directions.

Claims 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Russian Patent No. SU 1708397 A1 to Gubarev et al. in view of European Patent Publication No. EP 000256147 A1 to Genev and further in view of Japanese Patent No. 845,632.

The rejection of claim 24 above serves as the basis for the following. Neither Gubarev et al. or Genev teaches recesses on either a first or second processing face for a processing device. Japanese Patent No. 845,632 teaches a processing device (see page 134), with processing faces (depicted on page 133) featuring recesses. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the modified device of Gubarev et al. and Genev with the recessed processing surfaces of '632 in order to provide processing surfaces capable of more efficient processing than processing surfaces without recesses.

Claims 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Abstract 05-348616 to Masuda in view of Russian Patent No. SU 1708397 A1 to Gubarev et al. and further in view of Japanese Patent No. 845,632.

Regarding claim 35, Masuda teaches a processing apparatus for fluid, comprising: a feed (at 3) for fluid to be processed, two processing members (2 and 1)

Art Unit: 3752

comprising a first processing face and a second processing face (not numbered), which are placed opposite to each other, the first and second processing faces being connected with a tight-closed fluid passage (not numbered) through which the fluid flows. Also featured, a rotary drive mechanism (generally (8)) for relatively rotating the second processing member with respect to the other, wherein fluid is fed from the center portion (at 3) of the rotary motion to the interval between the processing members and then discharged outside thereof and a fluid film with predetermined thickness is formed whereby said fluid is processed by atomization. Masuda does not teach at least one of the processing members is movable towards or away from the other. Gubarev et al teaches a processing device where processing members (a plate, part of stator disc (17)) is movable towards or away from the other, via springs (16). The same springs of Gubarev et al provide a face contact applying mechanism for applying contact pressure between two processing faces by biasing at the bottom processing members into contact with the other. Japanese Patent No. 845,632 teaches a processing device (see page 134), with processing faces (depicted on page 133) featuring recesses, which, in use create dynamic pressure acting on the pressure receiving surface in use to provide a separation force for separating the processing members, so that, in use a modified Masuda device with the dynamic pressure generating mechanism of '632, the face contact pressure applying mechanism of Gubarev et al and its own pressure receiving surface would be configured so that, in use, the separation force between the processing members would be in balance with the contact pressure and the balance would maintain a predetermined interval between

Art Unit: 3752

a micro scale width. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the processing device of Masuda with the known dynamic pressure generating mechanism taught by Japanese Patent '632, and the known face contact pressure applying mechanism of Gubarev et al, in order to improve the processing efficiency of a known processing device.

Allowable Subject Matter

Claims 27, 29 31,32, 34 and 36-39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure is as follows:

U.S. Patent No. 2,751,157 to Meyer et al, disclosing a processing device

U.S. Patent No. 3,817,461 to Geissel et al., disclosing an agitator mill

U.S. Patent No. 4,082,233 to Reinhall, disclosing a disc refiner

U.S. Patent No. 5,200,038 to Brown, disclosing a pulp refiner

U.S. Patent No. 5,622,650 to Rourke, disclosing an emulsifier


Any inquiry concerning this communication or earlier communications from the examiner should be directed to James S. Hogan whose telephone number is (571) 272-4902. The examiner can normally be reached on Mon-Fri, 7:00a-4:00p EST.

Art Unit: 3752

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Scherbel can be reached on (571) 272-4919. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JSH
11/9/2005



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